

SOVIET JOURNAL OF NUCLEAR PHYSICS

Volume 18 January-June 1974

J. George Adashko, Editor

American Institute of Physics Translations Advisory Board

Robert T. Beyer, Chairman

J. George Adashko, Freeman Dyson, Dwight Gray

Morton Hamermesh, David Harker, Howard A. Robinson

a translation of the journal

ЯДЕРНАЯ ФИЗИКА

Yadernaya Fizika (Nuclear Physics) of the Academy of the Sciences of the USSR

Russian original Vol. 18, July-December 1973

Editorial Board

V. V. Vladimirkii, Editor in Chief

Ya. A. Smorodinskii, Associate Editor M. V. Terent'ev, Secretary

S. T. Belyaev, D. I. Blokhintsev, N. N. Bogolyubov, G. I. Budker, I. V. Chuvilo

A. S. Davydov, B. S. Dzhelepov, G. N. Flerov, I. M. Frank, V. G. Kirillov-Ugryumov

L. I. Lapidus, A. A. Logunov, M. G. Meschcheryakov, A. B. Migdal

M. I. Podgoretskii, B. M. Pontecorvo, R. M. Sulyaev

K. A. Ter-Martirosyan, S. N. Vernov, D. V. Volkov

published by the American Institute of Physics

NUCLEI

Experiment

- 1 (3) Delayed protons from Te^{109} and the β -decay strength function D.D. Bogdanov, V.A. Karnaukhov, and L.A. Petrov
- 6 (12) T-invariance in nuclear electromagnetic transitions . . . M.I. Bulgakov, A.D. Gul'ko, G.V. Danilyan, I.L. Karpikhin, P.A. Krupchitskiĭ, V.V. Novitskiĭ, Yu.A. Oratovskii, V.S. Pavlov, E.I. Tarkovskii, and S.S. Trostin
- 10 (20) Study of quasielastic high energy electron scattering on light nuclei É.L. Kuplennikov, N.G. Afanas'ev, V.A. Gol'dshtein, V.I. Ogurtsov, and V.G. Vlasenko
- 12 (24) Peculiarities in thermal neutron capture by even-even nuclei in the region $A = 60-80$ A.V. Murzin
- 15 (29) Angular distributions of fragments from fission of nuclei U^{238} , Th^{232} , Bi^{209} , Re^{186} induced by protons with $T_p = 1$ GeV A.M. Zolotov, B.A. Bochagov, L.N. Andronenko, and G.E. Solyakin
- 18 (34) Search for a spontaneously fissioning isomer nucleus U^{236m} in the reaction $\text{U}^{235}(n, \gamma)$ Zen Chang Bom, A. Laitay, A.A. Omelyanenko, Ts.Ts. Panteleev, S.M. Polikanov, Yu.V. Ryabov, and Tang San Khak
- 20 (37) Theory
Energy dependence of the ratio Γ_n/Γ_f for transuranium elements. V.S. Barashenkov, F.G. Zheregĭi, A.S. Il'inov, and V.D. Toneev
- 21 (39) Spectra and angular distributions of photoprotons from the decay of dipole isobar-analog states G.Ya. Tertychnyi and E.L. Yadrovskii
- 26 (48) Effects of dynamic deformation in the interaction of complex nuclei V.P. Permyakov
- 30 (56) Determination of the deuteron form factor from the experimental data on elastic pd, pp, and np small-angle scattering in the energy range 10-26 GeV L.S. Zolin, V.A. Nikitin, Troung Bien, and M.G. Shafranov
- 33 (62) Quartet s phase shift for nd scattering below the threshold in the linear approximation in the interaction range V.N. Efimov and E.G. Tkachenko
- 35 (67) Accuracy of the pole approximation in the four-particle integral equations I.M. Narodetskiĭ
- 38 (73) Equations for three-particle resonance wave function . . . Yu.A. Simonov and A.M. Badalyan

ELEMENTARY PARTICLES AND FIELDS

Experiment

- 41 (79) Cumulative mesoproduction A.M. Baldin, S.B. Gerasimov, H. Guordenescu, V.N. Zubarev, L.K. Ivanova, A.D. Kirillov, V.A. Kuznetsov, N.S. Moroz, V.B. Radomanov, V.N. Ramzhin, V.S. Stavinskiĭ, and M.I. Yatsuta

45 (86)	Inelastic π^+p interactions at energy 230 MeV	Yu.A. Batusov, S.A. Bunyatov, G.R. Gulkanyan, and V.M. Sidorov
49 (93)	Analysis of reactions $pp \rightarrow NN2\pi$ and $pp \rightarrow NN3\pi$ at the incident proton momentum 19.1 GeV/c	Zh.S. Takibaev, É.G. Boos, L.A. Sanko, K.G. Zaitsev, and K.V. Sharapov
53 (102)	Measurement of the pion and nucleon form factors at the timelike four-momentum transfers $k^2 = 1.7, 2.2,$ and $2.9 F^2$	S.F. Berezhnev, A.V. Demyanov A.V. Kulikov, A.V. Kuptsov, V.P. Kurochkin, G.G. Mkrtychyan, L.L. Nemenov, Zh.P. Pustyl'nik, G.I. Smirnov, A.G. Fedunov, and D. M. Khazins
57 (109)	Production of neutrons in Pb, Cd, Fe, and Al by high energy muons.	G.V. Gorshkov, V.A. Ziyabkin, and R.M. Yakovlev
62 (118)	Muon component of an extensive air shower near the shower axis	N.P. Il'ina, N.N. Kalmykov, J. Oleinichak, B.A. Khrenov, G.B. Khristiansen, and Z.V. Yarochkina
70 (133)	Energy-loss and range straggling of α particles from Pu^{238} in some gases	N.N. Demidovich, I.E. Nakhutin, and V.G. Shatunov
74 (142)	Theory Scattering of light by a charge in an external electro- magnetic field.	E.V. Doktorov, I.A. Malkin, and V.I. Man'ko
79 (153)	The $\mu \rightarrow e + \gamma$ decay in the Gribov-Pontecorvo model . .	M.G. Shchepkin
82 (159)	Single muon production in colliding electron-positron beams	O.P. Sushkov and V.V. Flambaum
84 (162)	Anomalous interactions of muons and heavy μ -mesic atoms.	V.I. Zakharov and M.A. Shifman
87 (167)	Intermediate-particle production in the renormalizable theory of the weak interaction	A.É. Asratyan and E.P. Shabalin
90 (174)	Single hyperon production in p N collisions at low energies	V.B. Kopeliovich
93 (179)	Inclusive hadron photoproduction in the quark model. .	M.N. Kobrinskiĭ
95 (182)	Approximate allowance for absorptive corrections to binary hadronic reactions and the Coulomb photoproduction	I.V. Andreev and A.Ya. Ostapchuk
99 (190)	Scale dimensionality of the axial current and the $\sigma\pi\pi$ vertex	Dao Vong Duc
102 (196)	Analysis of inelastic collisions of superhigh-energy particles with nuclei	V.S. Barashenkov and S.M. Eliseev
105 (202)	Mass formula in SU(3) symmetry with elliptical basis . .	I. Lukáč
109 (210)	Some physical consequences of a nonlocal quantum theory of weak interaction.	V.A. Alebastrov, G.V. Efimov, and Sh.Z. Sel'tser
114 (221)	"Extra" Goldstones in gauge theory with spontaneous breaking.	I.V. Tyutin and E.S. Fradkin